

CLAIMS

What is claimed is:

1. An input method of 3-D translation and rotation for measuring 3-D translation and rotation of a photo device with respect to a display emitting a bright spot, said input method of 3-D translation and rotation comprising the steps of:
 - moving the bright spot freely on a display surface of said display;
 - condensing the bright spot on said display, and detecting a projection position of the spot light projected onto a projection plane;
 - bringing a bright spot display position on said display into correspondence with the projection position of the spot light on photo detectors;
 - and
 - calculating the 3-D translation and rotation of said photo device with respect to the bright spot moving surface of said display from a set of multiple bright spot display positions and their projection positions which are brought into correspondence.
2. The input method of 3-D translation and rotation as claimed in claim 1, wherein said photo detectors for detecting the projection position of the spot light consist of a set of photo detectors, each of which includes a spot-like photo window.

3. The input method of 3-D translation and rotation as claimed in claim 2, wherein the step of bringing comprises the sub-steps of:

bringing a projection image position on said photo detectors into correspondence with projection time, the projection image position being a position formed by projecting the bright spot on said display onto the projection plane of said photo device;

recording the projection position and projection time; and

bringing bright spot display positions at multiple times into correspondence with their projection positions in accordance with the recorded projection time.

4. The input method of 3-D translation and rotation as claimed in claim 1, wherein said photo detectors for detecting the projection position of the spot light consist of a photo detector including a flat photo detecting face for detecting the position of the spot light.

5. The input method of 3-D translation and rotation as claimed in claim 4, wherein the step of bringing comprises the sub-steps of:

bringing a projection image position of the spot light on said photo detectors into correspondence with projection time, the projection image position of the spot light being a position formed by projecting the bright spot on said display onto the projection plane of said photo device;

recording the projection position and projection time; and

bringing bright spot display positions at multiple times into correspondence with their projection positions in accordance with the recorded projection time.

6. A computer readable recording medium for causing a computer to execute an input method of 3-D translation and rotation for measuring 3-D translation and rotation of a photo device with respect to a display emitting a bright spot, said computer readable recording medium causes the computer to execute the steps of:

moving the bright spot freely on a display surface of said display;
condensing the bright spot on said display, and detecting a projection position of the spot light projected onto a projection plane;
bringing a bright spot display position on said display into correspondence with the projection position of the spot light on photo detectors;
and
calculating the 3-D translation and rotation of said photo device with respect to the bright spot moving surface of said display from a set of multiple bright spot display positions and their projection positions which are brought into correspondence.

7. The recording medium as claimed in claim 6, wherein said photo detectors for detecting the projection position of the spot light consist of a set of photo detectors, each of which includes a spot-like photo window, and wherein the step of bringing comprises the sub-steps of:

bringing a projection image position on said photo detectors into correspondence with projection time, the projection image position being a position formed by projecting the bright spot on said display onto the projection plane of said photo device;

recording the projection position and projection time; and

bringing bright spot display positions at multiple times into correspondence with their projection positions in accordance with the recorded projection time.

8. The recording medium as claimed in claim 6, wherein the spot light on said photo detectors at the step of bringing is the spot light detected and output from said photo detectors, and wherein the step of bringing comprises the sub-steps of:

bringing a projection image position of the spot light on said photo detectors into correspondence with projection time, the projection image position of the spot light being a position formed by projecting the bright spot on said display onto the projection plane of said photo device;

recording the projection position and projection time; and

bringing bright spot display positions at multiple times into correspondence with their projection positions in accordance with the recorded projection time.